

# Work Order ID 53520

November 9, 2009 7:21:50 AM



Page 1

Item ID: D6102-011

Accept



Setup Start



Revision ID: D

Stop



Item Name: Saddle Billet

Start Date: 11/09/09 Start Qty: 40.00



Cust Item ID:

Required Date: 11/16/09 Req'd Qty: 40.00



Customer:

Reference:

Approvals:

Process Plan: CL

Date: 09/11/09 Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D6102

Rev D

100

0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 10723 ☐ a) Description: Aluminum Billet ☐ b) 6.500" x 8.250" x 2.500" thick ☐ c) Tolerance on all dimensions is +0.06/0.00 ☐ d) Grain direction along 6.500" length ☐ e) Material: 6061-T6/T6511 (QQ-A-250/11 or QQ-A-200/8) ☐ Material release certifi

CL

09/11/09

(40)

110

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

Ensure material certification is attached

CL

9/11/12

(40)

120

QC6- Inspect dimensions to drawing

0.00



QC

Memo

0.00

Quality Control

Check certification to Dwg D6102 for compliance

CL

40

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

• **NOTE:** Date & initial all entries

**Work Order ID 53520**

Page 2

November 9, 2009 7:21:50 AM

Item ID: D6102-011

Accept



Setup Start



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Item Name: Saddle Billet

Start Date: 11/09/09 Start Qty: 40.00



Cust Item ID:

Required Date: 11/16/09 Req'd Qty: 40.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

Identify as per dwg & Stock Location: MAT

0.00

mf 09/11/12

Packaging

Memo

0.00

40

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/11/13 AJ  
mf  
09-11-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

• **NOTE:** Date & initial all entries

# Picklist Print

November 9, 2009 7:21:50 AM

Page 1

Work Order ID: 53520



Parent Item: D6102-011RevD



Parent Item Name: Saddle Billet

Start Date: 11/09/09

Required Date: 11/16/09

Comments:

Start Qty: 40.00

Required Qty: 40.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6102-011PRevD		Purchased	No			110	Each	0.0000	40.0000			
6061-T6 8.25x6.5x2.5												

*P. G. / 12 (40)*

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

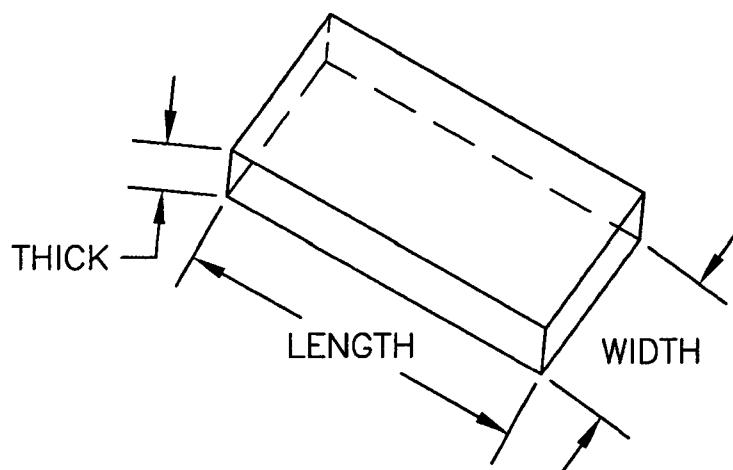
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

• **NOTE:** Date & initial all entries

**DART**

DESIGN #	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D6102	Rev. D SHEET 1 OF 1
DATE 06.06.30		TITLE SADDLE BILLET, 6061	SCALE NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

## SPECIFICATION CONTROL DRAWING



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 53520  
C209/11/09

**RELEASED**

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

mf 09/11/12

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO10723**

Purchase Order Date 11/09/09

PO Print Date 11/09/09

Page Number 1 of 2

Order From :

VC-MAG002

MAGNA STAINLESS  
5775 RUE KIERAN  
ST LAURENT, QC H4S 0A3  
CA

**FAKED**

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	800 363 6646	Requisition Nbr	
Vendor Fax	514 339 1105	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	

Ship To : DART AEROSPACE LTD 1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6102-010P D	6061-T6 8.25x7.95x2.5	11/16/09 Yes	✓ 40.00 Each	Yours ppd	\$62.0000	\$2,480.0

**Special Inst:** MATERIAL: 6061-T6/T6511 (QQ-A-250/11  
OR QQ-A-200/8 OR AS PER AMS  
4025/AMS 4027 OR ASTM B209  
BILLET SIZE: 7.950" X 8.250" X 2.500"  
THICK  
GRAINN DIRECTION ALONG 7.950"  
LENGTH  
TOLERANCE ON ALL DIMENSION IS  
+0.06/0.00  
B53519

*PC 9/11/12*

2	D6102-011P D	6061-T6 8.25x6.5x2.5	11/16/09 Yes	✓ 40.00 Each	Yours ppd	\$50.0000	\$2,000.0
---	-----------------	----------------------	-----------------	-----------------	-----------	-----------	-----------

**Special Inst:** MATERIAL AS ABOVE  
BILLET SIZE: 6.500" X 8.250" X 2.50"  
THICK  
GRAIN DIRECTION ALONG 6.500"  
LENGTH  
TOLERANCE ON ALL DIMENSIONS IS  
+0.60/0.00  
B53520

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable

Change Nbr: 1

Change Date: 11/09/09





# Magna Stainless

5775 Kieran St, Saint-Laurent, Quebec H4S 0A3  
Phone: (514) 339-1211 Watts: 1-800-363-6646 Fax: (514) 339-1105



## PACKING LIST

Page 1 of 1

I019360

SOLD TO:  
DART AEROSPACE LTD  
1270 ABERDEEN STREET

SHIP TO:  
DART AEROSPACE LTD  
1270 ABERDEEN STREET

HAWKESBURY, ON  
K6A 1K7  
Contact:

HAWKESBURY, ON  
K6A 1K7  
Ship Terms: PREPAID

MTR:Y

SPECIAL INSTRUCTIONS

Currency		Sales Person		Customer Phone	Customer Fax	Customer PO	
CANADIAN DOLLARS		ERYCK BLAIS		(613) 632-5200	(613) 632-1053	LINDA 10722	
Sales Order	Terms		Ship Via		Date Ordered	Date Required	Date Shipped
W021078	NET 30 DAYS		NIR:R-557065-1		11/09/09	11/16/09	11/12/09

Ordered	Back Ordered	Unit	Description	Bundle #	Heat #	Shipped
40		PC	ALUMINUM - LB 6061-T6 2 1/2" X 8.250" X 7.95" GR			40
			656 LB / 40 PC	L033106	628628	40
40		PC	6061-T6 2 1/2" X 8.250" X 6.50" GR			40
			537 LB / 40 PC	L033107	625696	40
Skids: 2				Approx	Weight:	1,193 LB

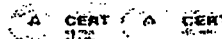
*mf*  
09/11/12

Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Signature: \_\_\_\_\_



## INSPECTION CERTIFICATE № 09.19375

EN 10204 - 3.1



Consigner KAMENSK URALSKY METALLURGICAL WORKS JOINT STOCK COMPANY 5, Zavodskaya Str. Kamensk Ural'sky, Sverdlovsk Region, 623406 Russia Tel: (3438) 39 52 22 Fax: (3438) 39 50 58										
Consignee					Quantity 1					
Contract number: N11387-S P60727DK010					Net Weight, kg 980					
Article number:					Specification № N11387 Lot № 1 Package № 608063					
Description of Goods: Plates					Requirements on the Products:					
Grade of Product			Dimensions, inch/mm		Materials conforms to quality of alloy: 6081 T851					
			2.5"X60.5"X144.5" 63.500X1536.7X3670.3		Product conforms to all requirements of ASTM-B209-07, AMS-QQ-A250/11AMS4027N. This product conforms to European Union RoHS Directive 2002/95/EC					
Mechanical Properties										
The Condition of Tested Standards	Lot Number	Cert Number	Number of Tests	Tensile Strength		Yield Strength (0.2% offset)		Elongation, %		Hardness HB
				ksi		ksi		min	max	
				min	max	min	max	min	max	
Required				42.0	-	35.0	-	6.0	-	-
	628628	13-5016	1	48.1	48.1	44.8	44.8	12.0	12.0	
Chemical Composition, %										
Element	Silicon Si	Iron Fe	Copper Cu	Manganese Mn	Magnesium Mg	Chromium Cr	Nickel Ni	Zinc Zn	Titanium Ti	Zirconium Zr
Required	0.4-0.8	0.7	0.15-0.40	0.15	0.8-1.2	0.04-0.35	-	0.25	0.15	-
Contents	0.63	0.2	0.22	0.03	1.0	0.05	-	0.03	0.09	-
Element	Ti+Zr	Na	Tin Sn	Bismuth Bi	Phosphorus P	Mn+Cr	Ca	Other Elements		Al
								Each	Total	
Required	-	-	-	-	-	-	-	0.05	0.15	remainder
Contents	-	-	-	-	-	-	-	0.05	0.15	remainder
Other Tests										
Method	Macro- structure	Micro- structure	USI	Electro- conductivity	Contents H2 of metal's cm3/100g		Mercury - Free "Russia is country of melt and manufacture"			
Result	-	-	-	-	0.23					

On behalf:

KUMW, JSC.

Date:

24.08.09

Inspector:

K.V. Ziryanova

Inspection Department engineer

N.V. Alekhina



Inc 11-11-09

# INSPECTION CERTIFICATE № 09.15153

EN 10204 - 3.1

№ V M 3

Contractor: KAMENSK URALSKY METALLURGICAL WORKS JOINT STOCK COMPANY  
5, Zavodskaya Str., Kamenak Uralsky, Sverdlovsk Region, 623403, Russia Tel: (3439) 39 52 22 Fax: (3439) 39 50 66

Consignee:

Quantity: 2

Contract number: N11298-S  
P00818DK006

Net Weight kg: 2520

Specification №: N11298

Article number:

Lot №: 1  
Package №: 606508, 606509

Description of Goods: Plates  
Grade of Product: Dimensions, inch/mm

Requirements on the Product:  
Material conforms to quality of alloy. G061 T051

2,5 X 18,5 X 145  
63.500X1983.9X3983.0

Product conforms to all requirements of  
ASTM-A209-07 AMS-QQ-A280/1YAMS-027N. This  
product conforms to European Union RoHS Directive  
2002/95/EC

## Mechanical Properties

The Condition of Tested Standards	Lot Number	Cert Number	Number of Tests	Tensile Strength		Yield Strength (0.2% offset)		Elongation %		Hardness, HB
				ksi		ksi				
				min	max	min	max	min	max	
Required	625698	20-2882	2	420	-	35.0	-	6.0	-	-
				48.1	48.1	43.2	43.2	10.0	12.0	

## Chemical Composition, %

Element	Si	Mn	P	Cu	Aluminum	Magnesium	Chromium	Nickel	Zinc	Titanium	Zirconium
Required	0.4-0.8	0.07	0.15-0.40	0.15	0.2-1.2	0.04-0.35	-	-	0.25	0.15	-
Conforms	0.67	0.2	0.30	0.15	1.0	0.05	-	-	0.11	0.08	-
Element	Tr-Zr	Nb	Ti	Sn	Bi	Purified	Mn-C	Ca	Other Elements		
Required	-	-	-	-	-	-	-	-	Each	Total	remains
Conforms	-	-	-	-	-	-	-	-	0.05	0.15	remains
									0.05	0.15	remains

## Other Tests

Method	Macro-structure	Micro-structure	UT	Edo- conductivity	Conforms to standards	Mercury - Free
Result	-	-	-	-	0.20	"Russia is country of metal and manufacturer"

On behalf:

KUMMW, JSC

Date:

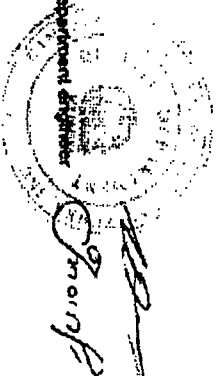
08.07.09

Inspector:

G.A. Ostapine

Inspection Department Engineer

N.V. Ashkina



8.250 X  
6.50 X  
2.1/2  
04/11/12  
CWF